

IN THE CLAIMS:

Please cancel claims 1-17 and insert new claims 18-24 as follows:

Claims 1-17 (canceled)

18. (new): A kinematic device for supporting and programmably moving a terminal element in a machine or an instrument, said device comprising a fixed base defining a reference plane, a support and drive structure arranged for moving said terminal element at will within a predetermined workspace, said structure comprising at least two carriages guided on said base for moving with only one degree of freedom, at least two rigid legs of definite length, a platform bearing said terminal element, a support and drive joint arrangement connecting the carriages to one end of the legs and the other end of the legs to the platform, and an auxiliary structure for imparting to the terminal element a pivoting movement about a pivot axis belonging to the platform, comprising an auxiliary carriage guided on said base for moving with only one degree of freedom, an auxiliary rigid pivot bar of fixed length, a joint connecting one end of the pivot bar to the auxiliary carriage, and a transmission structure between the other end of the pivot bar and the terminal element, with a transmission joint on said terminal element, for transmitting to the terminal element a resultant force in response to a displacement of said auxiliary carriage, the arrangement of said transmission structure and the location of said transmission joint with respect to the platform being such that the direction of the resultant force at the transmission joint remains close to a perpendicular to the line joining the transmission joint to the pivot axis for all position of the terminal element within the workspace, whereby a condition of angular stiffness tracking is fulfilled.

19. (new): A kinematic device as claimed in claim 18, wherein in said support and drive structure said at least two carriages consist of two support slides and of a further side slide, said slides moving on guiding means integral with said base and having a same orientation which defines an x-axis of said workspace, wherein said at least two legs consist of two pairs of parallel rigid bars of definite length, each pair joining one of the support slides to the platform and of a further side bar extending between the side slide and the platform, and wherein said support and drive joint arrangement comprises eight joints, four of which connect the pairs of parallel support bars to the support slides, the other four joints connecting the pairs of bars to the platform and having locations on the platform defining two parallel lines with an y orientation in the workspace, the said pivot axis being determined by the locations of said lines.

20. (new): A kinematics device as claimed in claim 19, wherein the platform and the terminal element are secured together to form a single rigid body, and the transmission structure consists of a joint connecting the other end of the pivot bar to the platform and forming said transmission joint, the location of which on said platform being such that the condition of angular stiffness tracking is fulfilled.

21. (new): A kinematic device as claimed in claim 19, wherein said platform and said terminal element are secured together to form a single rigid body and wherein the transmission structure comprises a pivot plate hinged to said body through a pair of coaxial joints having the said y orientation and forming the said transmission joint, a control bar connected at one end through a joint to one of the support slides, and at the other end to the pivot plate, and joints connecting the other ends of the pivot bar and of the side bar respectively to the pivot plate, the condition of angular

stiffness tracking being fulfilled through a geometrical arrangement of the transmission structure.

22. (new): A kinematic device as claimed in claim 18, wherein in said support and drive structure, said at least two carriages comprise three support slides moving on guiding means integral with said base, at least one of said means having an orientation which defines an x axis of said workspace, wherein said at least two legs consist of three pairs of parallel rigid bars of definite length, each pair connecting one of the support slide to the platform, said support and drive joint arrangement comprising twelve joints, one half of which are located between the support slides and the corresponding ends of the support bars, the other half being located between the other ends of the support bars and the platform, in such a manner that the latter is moved in translation only, by displacement of the support slides, wherein the platform and the terminal element are two separate bodies, and the terminal element is hinged to the platform through a pivot joint having an y orientation and defining said pivot axis and wherein the transmission structure comprises a pivot plate hinged to the terminal element through a pair of coaxial joints having said y orientation and forming said transmission joint, a control bar connected at one end through a joint to one of the support slides moving on the x axis and at the other end through a further joint to the pivot plate, the other end of said pivot bar being connected through a joint to the pivot plate and the geometrical arrangement of the transmission structure and locations of its joints being adapted to fulfil the condition of angular stiffness tracking.

23. (new): A kinematic device as claimed in claim 18, wherein

in said support and drive structure, said at least two carriages consist of two support slides moving on guiding means integral with said base and having a same orientation defining an x axis of said workspace, wherein said at least two legs merely consist of two rigid legs of definite length, wherein said support and drive joint arrangement consist of pivot joints, all having a same orientation perpendicular to said x axis so that the displacement of the platform is limited to the direction of the x axis, and the pivots of two of said joints, connecting the legs to the platform, define said pivot axis of the platform, wherein the platform and the terminal element are secured together to form a single rigid body, and wherein the transmission structure comprises a pivot plate hinged to said body through a pair of coaxial joints forming said transmission joint, a control bar connected at one end through a joint to the pivot plate and at the other end to one of the support slides, and a joint connecting the other end of the pivot bar to the pivot plate, the condition of angular stiffness tracking being fulfilled through a geometrical arrangement of the elements of the transmission structure.

24. (new): A kinematic device as claimed in claim 18, wherein in said support and drive structure said at least two carriages consist of two support levers pivotally mounted on said base about parallel axes defining an y axis of said workspace for moving with only one degree of freedom and of a side lever pivotally mounted on said base about a side axis differing from the y axis and wherein in said auxiliary structure said auxiliary carriage is an auxiliary lever pivotally mounted on said base about an axis differing from the y and from the side axis, for moving with only one degree of freedom.